

## REMARKS

Claims 30-34, 36-44, 47-52 and 54-57 are pending in the above-identified application.

### Unity Invention Requirement

Applicant maintains a traversal of the Unity of Invention Requirement for the reasons stated in the Amendment filed June 29, 2010, as well as the Response filed November 6, 2009, which reasons are deemed repeated herein. It is further submitted that compounds IIIa and IIIb, as well as compounds IVaa, IVba, IVab and IVbb, are all isomers of each other only differing in the spatial orientation of the -OH group on the side chain or by the hydrogen atom in the SO<sub>2</sub> adduct ring system. The compounds of categories III and IV are linked together since they represent the reduced vs. the oxidized form (a redox pair) of the same type of compound. Different claim categories (new compounds III, as well as methods of making them and using them in a process) should be allowable since they all share the special technical features of the compounds of categories III and IV. Therefore, for these additional reasons, it is again requested that the Unity of Invention Requirement be withdrawn. Consequently, it is requested that the Unity Requirement be withdrawn.

### Issues under 35 USC 103(a)

Claims 30-34, 36-43 and 48-50 have been rejected under 35 USC 103(a) as being unpatentable over Calverley ("Synthesis of MC 903, A Biologically Active Vitamin D Metabolite Analogue," *Tetrahedron* Vol. 43, No. 20. pp. 4609 to 4619, 1987). This rejection is traversed based on the following reasons.

### Present Invention and Its Advantages

The present invention is directed to methods for achieving a diastereo-selective reduction of certain SO<sub>2</sub> adducts by employment of a chiral reducing agent or a chiral auxiliary. Note claim 30 for example. An advantage of the present invention is evident from Example 16 and the associated table at pages 32-33 of the present specification wherein it is shown the selective reduction of the present invention produces more of the desired isomer Va. Employment of

suitable SO<sub>2</sub> adduct precursors provides for advantageously improved yields, purer products, and more convenient product recovery conditions.

*Distinctions over Calverley*

The presently claimed method differs significantly from the cited Calverley reference. First, Calverley fails to disclose or suggest employment of a diastereo-selective reduction using a chiral reducing agent or a chiral auxiliary. Second, Calverley fails to disclose or suggest reduction of SO<sub>2</sub> adducts at all, with any type of reducing agent, since no SO<sub>2</sub> adducts suitable for reduction are described therein. Third, Calverley discloses only SO<sub>2</sub> adducts that are structurally very remote and distinct from those employed in the present invention, such as the unsaturated triene precursors described in Calverley. For example, compounds **13a** and **13b** in Calverley each have a side chain that is not suitable for reduction and is completely different from those of the compounds employed in the method of the present invention. Also, compounds **14a** and **14b** in Calverley have no side chain at all. Consequently, the methods described in Calverley on pages 4612, 4613, and 4614 all differ significantly different from those of the present invention.

In summary, Calverley fails to disclose or suggest a method for reduction of the novel SO<sub>2</sub> adducts of the present invention, let alone by using chiral reducing agents or chiral auxiliaries. Further, nothing in Calverley discloses, suggests how to make or provides any motivational basis for even attempting to make the novel starting compounds III recited in the present claims. Thus, significant patentable distinctions exist over Calverley such that the above rejection must be withdrawn.

If any questions arise in the above matters, please contact Applicant's representative, Andrew D. Meikle (Reg. No. 32,868), in the Washington Metropolitan Area at the phone number listed below.

If necessary, the Director is hereby authorized in this, concurrent, and future replies to charge any fees required during the pendency of the above-identified application or credit any overpayment to Deposit Account No. 02-2448.

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Respectfully submitted,

By 

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